

**Montana Board of Research and Commercialization Technology**  
**Board Meeting**  
**301 South Park, Helena, Montana**  
**May 3 & 4, 2005**

**Members Attending:**

Bill Crain, Chairman  
Marty Connell  
Mike Dolson  
Paul Tuss  
John Youngberg

**Others Attending:**

Dave Desch, Executive Director  
Jane Todd, Program Specialist  
Anthony Preite, Director, Department of Commerce (11:45 a.m. – 11:50 a.m. on May 3, 2005)

**I. Call to Order**

Chairman Bill Crain called the meeting to order at 9:40 a.m.

**III. Approval of Minutes**

Chairman Crain asked for comments regarding the Minutes of the March 17, 2005, Board meeting. Marty Connell moved to approve the Minutes; seconded by Paul Tuss. The Minutes were approved as presented.

**IV. Introduction of New Board Member**

Dave Desch extended a welcome to Paul Tuss as the newest addition to the Board. Mr. Tuss was appointed by Gary Matthews, the Speaker of the House.

**V. Review and discussion of proposals submitted March 1, 2005**

Mr. Desch suggested a similar method be used for the review of proposals that had been used in the past. The Board members assigned to each project would make their comments and recommendations followed by comments from other Board members. By the end of the meeting, the Board will have generated a list of proposals that will be asked to make presentations.

The Board discussed the large number of proposals to be evaluated. After some discussion, it was decided to put the following proposals on hold:

**#06-09 Use of 100 Percent Fly Ash Based Concrete in Building Construction in Montana**  
**Jerry Stephens – MSU – Bozeman; Year 1 - \$74,941**

**#06-14 Selection of Antifungal Active Proteins in Wheat Kernels - Bill Grey – MSU – Bozeman; Year 1 - \$39,500; Year 2 - \$40,500; Total - \$80,000**

**#06-16 Development of Protein Encapsulation Technology for the Production of Electronic and Catalytic Products - Yuval Avniel – Briqx Technologies, Inc. - Missoula  
Year 1 - \$238,673**

**#06-21 Profitable Calf Backgrounding and Growing Ewe Lambs Utilizing Winter Cereal Forages Developed in Montana - Dave Wichman – Central Ag Research Center – MSU – Bozeman - Year 1 - \$65,811; Year - \$8,716; Total - \$74,527**

**#06-23 Novel Laser and Fluorescence Instrumentation for Life Sciences  
Gregory Gillispie – Dakota Technologies, Inc. – Fargo, ND - Year 1 - \$200,000**

**#06-25 Novel Pathogen Sampling Equipment for Emergency First Responders  
Bruce Bradley – Microbial-Vac Systems, Inc. – Bozeman - Year 1 - \$500,000**

**#06-27 Research & Commercialization of “Kre-Alkalyn” for the Joint Pain Market  
Jeffrey Golini – All American Pharmaceutical & Natural Foods, Corp. - Billings  
Year 1 - \$434,950**

**#06-28 Development of a Clinical Diagnostic Assay for Detection of L-arginine and Asymmetric Dimethylarginine (ADMA), a Novel Cardiovascular Risk Factor  
Stephen Black – Target Range Biotechnology, Inc. – Missoula - Year 1 - \$200,000**

**#06-34 Advanced Propulsion Systems - Bert Morgan – Bert Morgan Engineering – Ronan  
Year 1 - \$95,500**

**#06-36 Economic, Social and Biological Considerations Related to Fee Hunting Enterprises in Montana - James Knight – MSU – Bozeman - Year 1 - \$84,150**

**#06-41 Rabbit-Specific Cytokine Reagent Development - William Tino – LigoCyte Pharmaceuticals, Inc. – Bozeman - Year 1 - \$244,188; Year 2 - \$233,135; Total - \$477,323**

**#06-45 Huntite Crystals for UV Nonlinear Optics and Self-Frequency Doubled Lasers  
Gregory Peterson – Scientific Materials Corp. – Bozeman  
Year 1 - \$180,000; Year 2 - \$180,000; Total - \$360,000**

**06-48 Hive Tracer™: Beehive Security, Asset Tracking, and Distance Management  
Jerry Bromenshenk – Bee Alert Technology, Inc., LLC – Missoula  
Year 1 - \$225,354**

**#06-49 Automated Web-Based Soil-Vegetation Monitoring and Reporting Management System - Charles Orchard – Land EKG™ Inc. – Bozeman - Year 1 - \$96,162**

The Board discussed the following proposals in detail:

**#06-01 Montana Value-Added Small Grain for Ethanol and Safflower for Vegetable Oil-Based Lubricants  
Joyce Eckhoff – MSU/Eastern Agricultural Research Center – Sidney/Bozeman  
Year 1 - \$150,000**

**Discussion Notes**

The Board liked this project because:

- Potential for lubricant market appears positive.
- Sustainable Systems is a potential purchaser of the Culbertson plant.

The Board expressed concerns as follows:

- Can small grains compete with corn in ethanol production?
- Budget justification could be stronger.
- Does it take more energy to make ethanol than can be produced?
- Production of ethanol may not be economically feasible.

**#06-02 Camelina Sativa: A Low-Input Oil Crop for Omega-3 Culinary Oil and Animal Feeds**

**Alice Pilgeram – MSU – Bozeman**

**Year 1 - \$100,500; Year 2 - \$73,000; Total \$173,500**

**Discussion Notes**

The Board liked this project because:

- This is a novel approach to something new.
- A grower cooperative has been formed.

The Board expressed no particular concerns.

**#06-03 Development of Advanced Materials for Optoelectronics and Optical Communication Technologies**

**Galina Malovichko – MSU – Bozeman**

**Year 1 - \$100,000; Year 2 - \$80,000; Total - \$180,000**

**Discussion Notes**

The Board liked this project because:

- Convinced optical electronics is an important area and has commercialization potential.
- Collaboration with Scientific Materials, which has an excellent history for making crystals, selling, commercialization.

The Board expressed concerns as follows:

- Commercialization potential and timeline are not well explained.

**#06-04 Feeding Barley Beta-Glucans to Stimulate the Immune System of Calves**

**J. F. P. Bowman – MSU – Bozeman**

**Year 1 - \$36,054; Year 2 - \$32,053; Total - \$68,107**

**Discussion Notes**

The Board liked this project because:

- Proposal was clear and easy to understand.

- Budget is realistic.

The Board expressed no particular concerns.

**#06-05 Optical Fiber Communications Using Electro-optic Transducers**

**Richard Wolff – MSU – Bozeman**

**Year 1 - \$99,772; Year 2 - \$98,268; Total - \$198,040**

**Discussion Notes**

The Board liked this project because:

- Science appears to be good.

The Board expressed concerns as follows:

- Commercialization and timeframe for commercialization are not well explained.

**#06-06 Accelerated Development of Two Gene-Imidazolinone-Tolerant Wheat Varieties for Montana**

**Luther Talbert – MSU – Bozeman**

**Year 1 - \$75,000; Year 2 - \$75,000; Total - \$150,000**

**Discussion Notes**

The Board liked this project because:

- Project is exciting.
- Private industry is having concerns about GMO and this is not GMO.
- Research has the potential to play a major role in the production of wheat by substantially increasing production.
- The PI has an excellent track record and does good work.

The Board expressed no particular concerns.

**#06-07 A New Weapon for Reducing Sawfly Damage in Montana Wheat Fields**

**David Weaver – MSU – Bozeman**

**Year 1 - \$115,000; Year 2 - \$115,000; Total - \$230,000**

**Discussion Notes**

The Board liked this project because:

- The project appears to be straight-forward.
- Wheat stem sawfly damage is a huge problem.
- This is a continuation of high quality work testing hypotheses and making discoveries in incremental steps.

The Board expressed concerns as follows:

- Practical results from previous projects appear vague.
- Is there any genetic basis to think there might be wheat strains that would attract female sawflies?

**#06-08 A User Grant Program for the Montana Microfabrication Facility**

**David Dickensheets – MSU – Bozeman**

**Year 1 - \$24,000; Year 2 - \$40,000; Total - \$64,000**

**Discussion Notes**

The Board liked this project because:

- It is a creative way to provide affordable access for companies.
- This is a classic example of how one project can be successful in making available a user-grant program.
- The project is asking for a modest amount of money.
- In terms of commercialization, the project advances other companies by providing a microlab for companies to do research.

The Board expressed concerns as follows:

- Is this the type of project the Board should be funding?
- Is it a good idea to establish a precedent to fund another grant program?
- Are there other state programs that support this type of funding?
- The argument could be made that this is being funded already through the Board's NSF EPSCoR grant.

The Board requested a presentation.

**#06-10 Functional Analysis of Genes Controlling Malting Barley Grain Protein Concentration**

**Andreas Fischer – MSU – Bozeman**

**Year 1 - \$85,500; Year 2 - \$88,840; Total - \$174,340**

**Discussion Notes**

The Board liked this project because:

- Board has funded successful research at Sidney in the past.
- Proposal is well written.
- Montana barley is an under utilized component of the agricultural industry and this is an important project from that perspective.

The Board expressed concerns as follows:

- Commercialization component is not well presented.
- Proposal is not particularly persuasive.

**#06-11 Manipulating Grain Texture to Enhance End-Use Quality for Montana Wheat**

**John Martin – MSU – Bozeman**

**Year 1 - \$160,263**

**Discussion Notes**

The Board liked this project because:

- The project is good science.

The Board expressed concerns as follows:

- The proposal is not convincing that this technology will significantly increase the value of wheat.
- Commercialization impact is limited.
- Future of the wheat industry in Montana with regard to its increasing in size is not very bright.

**#06-12 Advancing Malting and Feed Quality in Barley**

**Mike Giroux – MSU – Bozeman**

**Year 1 - \$117,000; Year 2 - \$117,000; Total - \$234,000**

**Discussion Notes**

The Board liked this project because:

- The future of barley in these applications appears good.
- Commercialization potential is good.

The Board expressed no particular concerns.

**#06-13 Enhancing Wheat Nutritional Value by Altering Starch Composition**

**John Martin – MSU – Bozeman**

**Year 1 - \$64,500; Year 2 - \$64,500; Total - \$129,000**

**Discussion Notes**

The Board expressed no particular interest in this project, but expressed concern about the need for low-starch wheat in the future.

**#06-15 Commercialization of BmJ as a Broad Spectrum Microbial Plant Disease Control Agent**

**Barry Jacobsen – MSU - Bozeman**

**Year 1 - \$118,900**

**Discussion Notes**

The Board liked this project because:

- It appears previously funded project has made good progress.
- Positive results from EPA regarding pulmonary problems.
- Promising application for crops in addition to sugar beets, i.e. bananas.

The Board expressed no particular concerns.

**#06-17 Automated Updates of Geographic Information System (GIS) Databases Using Satellite and Aerial Imagery**

**Stuart Blundell – Visual Learning Systems, Inc. – Missoula**

**Year 1 - \$250,000; Year 2 - \$250,000; Total - \$500,000**

Larry Hall recused himself from review of this project.

### **Discussion Notes**

The Board liked this project because:

- Project is updating GIS system in a novel way that does something better, more affordable.
- Company has an established presence.

The Board expressed concerns as follows:

- Budget appears high and didn't use required format.
- Matching funds in the form of software given to state agencies from company may be questionable.
- The proposal is asking for a lot of money.
- Does software qualify as research from the Board's perspective if it accomplishes something new and results in new possibilities?

#### **#06-18 InformedBioscience: A Montana Bioinformatics Software Start-Up**

**Brendan Mumey – InformedBioscience - Bozeman**

**Year 1 - \$109,875; Year 2 - \$109,875; Total - \$219,750**

### **Discussion Notes**

The Board expressed no particular interest in this project.

The Board expressed concerns as follows:

- It appears to be a start-up company.
- Proposal presentation is not well done.
- There is no discussion of micro arrays, how they work, how it relates to the planned programming.
- There is no indication that the new programs the PI wants to develop will identify any biological phenomena.

#### **#06-19 Development of New Compound Libraries Through Hybrid Genetic Engineering and Chemical Synthesis Methods**

**Nigel Priestley – Promiliad Biopharma Inc. - Missoula**

**Year 1 - \$204,930; Year 2 - \$244,318; Total - \$449,248**

### **Discussion Notes**

The Board liked this project because:

- The project has received funding from NIH with favorable reviews.

The Board expressed concerns as follows:

- Proposal is unclear about what they want to do and how they're going to do it.
- Staying power of the company is unclear.

**#06-20 Biomimetic Floating Islands that Maximize Plant and Microbial Synergistic Relationships to Revitalize Degraded Fisheries, Wildlife Habitat, and Human Water Resources**

**Frank Stewart – Stewart Engineering – Bozeman**

**Year 1 - \$244,757; Year 2 - \$265,535; Total - \$510,292**

**Discussion Notes**

The Board liked this project because:

- Well-written proposal that comprehensively responded to the RFP.
- Addresses three major concerns in Montana: (1) lagoons beside oil and gas wells; (2) alkali water from coal bed methane development; (3) Berkeley Pit.
- Potential to bring millions of dollars to Montana.

The Board expressed concerns as follows:

- The request is for a lot of money.
- Potential lack of focus is a concern.

**#06-22 Research and Development of a Hydraulic Fluid from Montana Grown Oil Seed Crops**

**Paul Miller – Sustainable Systems – Missoula**

**Year 1 - \$100,000**

**Discussion Notes**

The Board liked this project because:

- The company has made a market for itself.
- Strong connection with university system.

The Board expressed no particular concerns.

**#06-24 Development of a Chemical Sensor System for Research, Industrial and Biomedical Applications**

**Michael DeGrandpre – Sunburst Sensors - Missoula**

**Year 1 - \$89,548; Year 2 - \$103,280; Total - \$192,828**

**Discussion Notes**

The Board liked this project because:

- Company has moved out of the previous location and into MonTEC.
- Proposal includes letter of support from Dick King, MonTEC.
- Model for university/private company collaboration resulting in selling a product.
- The company has attained other sources of funding.
- The company has been selling instruments for some time.

The Board expressed concerns as follows:

- Market size seems limited and prospects for additional applications for the technology are speculative.



- Commercialization plan could be more complete.
- Proposal has been previously funded by the Board.

**#06-26 Commercialization of Miniature Lasers: Evolving from Research and Development to Production**

**Christopher Palassis – AdvR, Inc. - Bozeman**

**Year 1 - \$125,723; Year 2 - \$124,664; Total - \$250,387**

**Discussion Notes**

The Board liked this project because:

- PI has done exactly what he said he would do in terms of getting a loan and putting up company money.

The Board expressed concerns as follows:

- The proposal is not primarily for research but final engineering stages of the product.

At this point, Marty Connell initiated a discussion regarding commercialization. It was suggested that money be set aside to establish a marketing fund and that a list of marketing and advertising agencies in the state be made available to principal investigators.

Dave Desch pointed out that, in the larger picture, companies need more than just marketing to be successful after MBRCT has funded them. Those areas include management, sales, accounting, legal, and manufacturing. Mr. Connell added the need for capital and human resources management. Mr. Tuss stated there are many resources available, such as 10 Small Business Development Centers around Montana, the Montana Manufacturing Extension Center, Rural Development Officers and economic development corporations.

After additional discussion, the Board decided to continue with the review of proposals.

**#06-29 Intellectual Property Development of Spatial Spectral (S2) Material Based Sensor Technologies**

**W. Randall Babbitt – MSU - Bozeman**

**Year 1 - \$89,025**

**Discussion Notes**

The Board liked this project because:

- The project has significant commercialization potential.
- The request is not for a huge amount of money.
- The project has private money in the effort from Scientific Materials.

The Board expressed no particular concerns.

**#06-30 Innovative Manufacturing Techniques for Polysaccharide-Protein Conjugate Vaccines**

**Gary Gustafson – EndoBiologics Incorporated - Missoula  
Year 1 - \$250,000**

**Discussion Notes**

The Board liked this project because:

- The research looks promising and could be commercialized on a fairly large scale.

The Board expressed concerns as follows:

- Much of the work is going to be done under contract out of state to Walter Reid Army Institute of Research.

**#06-31 Discovery Anti-TSE Agents**

**Timothy Nagel – BioPred-Computational Bioactivity Prediction Company - Bozeman  
Year 1 - \$200,000; Year 2 - \$200,000; Total - \$400,000**

**Discussion Notes**

The Board liked this project because:

- If someone can create a program to do what is proposed, it could be a high-value project.

The Board expressed concerns as follows:

- Some comments in the proposal were not backed up with data.

The Board requested a presentation.

**#06-32 New Applications for Bacterial Polysaccharide-Based Additives**

**Anthony Haag – Specialty Biopolymers Corp. - Bozeman  
Year 1 - \$86,706; Year 2 - \$86,206; Total - \$172,912**

**Discussion Notes**

The Board showed no particular interest in this project.

The Board expressed concerns as follows:

- Board wants to see more results from previously funded project before funding this one.

Dave Desch was asked to contact Mr. Haag and let him know the Board's concerns.

**#06-33 Advanced Detection of Food-borne Pathogens**

**Fred Albert – Bridger Technologies, Inc. – Bozeman  
Year 1 - \$322,944**

**Discussion Notes**

**The Board liked this project because:**

- The technology, if it works, can be applied in a variety of applications.

The Board expressed concerns as follows:

- Proposal is disjointed in terms of its presentation and how it was written.
- Very little description, or documentation, of how chips are constructed.
- There is no discussion of the physical chemistry involved.

**#06-35 Noninvasive Diagnosis and Treatment of Lung Cancer Using Two-Photon Photodynamic Therapy**

**Charles Spangler – MPA Technologies, Inc. – Bozeman**

**Year 1 - \$120,000; Year 2 - \$120,000; Total - \$240,000**

**Discussion Notes**

The Board liked this project because:

- Successful two-photon therapy to treat lung cancer would be significant.
- Proposal is explained well and it makes sense that the technology could work.

The Board expressed no particular concerns.

**#06-37 Real Time Proteomic Analysis of Peptides and Proteins**

**Ross Snider – Hylitech – Bozeman**

**Year 1 - \$382,980; Year 2 - \$344,207; Total - \$727,187**

**Discussion Notes**

The Board liked this project because:

- Super computer concept is intriguing.
- The project falls into line with Montana's position as a leader for storage technology for computers.
- NIH reviewers rated the project quite high and indicate the computer architecture makes sense and will probably work.
- NIH reviewers determined real-time access to analysis is important.

The Board expressed concerns as follows:

- The project is extremely expensive.

The Board requested a presentation.

**#06-38 TradeAgent: Advanced Model Project**

**Lester Dye – Benchmark Simulation, LLC – Missoula**

**Year 1 - \$125,000**

**Discussion Notes**

The Board liked this project because:

- The proposal is intriguing, partly due to Montana's position as a leading-edge entity with respect to data storage.
- Short turn-around time regarding commercialization is appealing.
- Opportunity to invest state money into something that is different.
- Partnership with MonTEC, Missoula Economic Development organization, is positive.

The Board expressed concerns as follows:

- \$125,000 may not be enough to do the project.
- Competition from commercial companies involved in stock trading is a concern.
- Why aren't investment companies involved in this kind of venture?
- Is this a novel approach?

The Board requested a presentation.

#### **#06-39 Development of a Novel Tissue Valve for Surgical Replacement of Diseased Aortic and Pulmonary Valves**

**Carlos Duran – International Heart Institute of Montana – Missoula**

**Year 1 - \$159,894; Year 2 - \$6,898; Total - \$166,792**

#### **Discussion Notes**

The Board liked this project because:

- PI is a world-famous heart surgeon and is involved in good science.
- Previous project is going well.
- Collaboration with Medtronic is positive.

The Board expressed concerns as follows:

- Continuation aspect of a previously funded project is not well explained.
- This application is not as well presented as the previous proposal.

#### **#06-40 Technology to Reinforce Aging and Weakened Wood Utility Poles**

**David Holand – Composite Innovations LLC – Bozeman**

**Year 1 - \$563,010**

#### **Discussion Notes**

Paul Tuss recused himself since he has submitted a letter of support for this proposal.

The Board liked this project because:

- This is a "blue-collar" project, which is very simple to describe.

The Board expressed concerns as follows:

- The request is for a significant amount of money.
- Equipment comprises \$258,000 of the budget; contracted services \$200,000.
- It is not clear what the research component of the proposal is.

#### **VI. Meeting Ended for the Day**

The meeting ended for the day at 5:50 pm and will re-convene at 9:00 a.m. May 4, 2005

**May 4, 2005  
Department of Commerce  
301 South Park – Helena, Montana**

**VII. Reconvene Meeting**

Chairman Crain reconvened the meeting at 9:08 a.m. and the business of reviewing proposals continued.

**#06-42 Technology to Complete Program for Market Launch of Innovative Native Seed Harvester**

**Lee Arbuckle – Arbuckle Ranch, Inc. – Billings**

**Year 1 - \$66,850**

**Discussion Notes**

The Board liked this project because:

- Proposal is written well and included detailed information.
- PI has received SBIR money since previously submitted to the Board.

The Board expressed concerns as follows:

- Certain line items in the budget require clarification.
- What is the competition?
- The concept of selling specialized equipment to farmers is risky.

**#06-43 Parametric and Functional Improvements to a Device that Facilitates Venous Access**

**Randall Peters – InfraMed Imaging, LLC – Bozeman**

**Year 1 - \$200,000**

**Discussion Notes**

The Board did not express any particular interest in the project.

The Board expressed concerns as follows:

- This appears to be the final states of developing an instrument.
- It is unclear whether there is any significant market for the instrument.
- The requested funds are for two subcontracts with other companies.
- Selling a new medical device is a very difficult task.

**#06-46 Development of Fluorescent Detection Technology for Proteomics**

**Don Thorne – Zdye, LLC – Gallatin Gateway**

**Year 1 - \$227,500; Year 2 - \$143,750; Total - \$371,250**

**Discussion Notes**

The Board liked this project because:

- Collaboration with Resonon and the university system is positive.

The Board expressed concerns as follows:

- The request is for a significant amount of money.
- There is no solid plan for commercialization.

The Board requested a presentation.

**#06-47 Sugar Beet Pectin: Potential Prebiotic Therapy for Intestinal Disorders**

**Howard Knapp – Deaconess Billings Clinic Research Center – Billings**

**Year 1 - \$146,619; Year 2 - \$127,956; Total - \$274,575**

**Discussion Notes**

The Board liked this project because:

- The value-added agricultural component is positive.

The Board expressed concerns as follows:

- Budget seems high.
- Timeframe and commercialization is hard to determine.
- How much does the Board want to support the sugar beet industry? An existing project is currently underway.
- Competition from artificial sweeteners that can be used for cooking, is a concern for the industry.
- Is this a solution searching a problem?

Paul Tuss read from the proposal, “The 2001 Montana State Legislature recognized that the troubled sugar beet industry generated over \$260 million annually in economic activity here, and passed House Joint Resolution No. 33. This resolved, in part, that the Legislature ‘urges the Montana Board of Investments, the Department of Commerce, and other agencies to utilize all possible financial resources and programs to assist Montana’s sugar industry in retaining and expanding this viable economic industry in the State of Montana.’”

The Board requested a presentation.

**#06-50 Artificial Intelligence Systems for Homeland Security Applications**

**Richard Donovan – Montana Tech – Butte**

**Year 1 - \$122,251; Year 2 – \$75,534; Total - \$197,785**

**Discussion Notes**

The Board liked this project because:

- Monitoring security is a big problem that isn’t going to go away.

The Board expressed concerns as follows:

- The project does not generate substantial interest from the Board.
- Why aren’t companies in the GPS industry addressing this?

- It's difficult to tell from the proposal whether the project is obtaining currently available software and repackaging it.

#### **#06-51 Developing and Testing of a Metallic Filter to Remove Mercury from Gas Streams**

**Kumar Ganesan – Montana Tech – Butte**

**Year 1 - \$77,350**

##### **Discussion Notes**

The Board liked this project because:

- This technology could have a significant impact on western coal production and the viability of coal reserves in the West.
- Future of energy production from coal hinges on this type of technology.
- This addresses a major environmental health issue.
- Turnaround time for commercialization appears to be relatively short.
- The project isn't requesting a lot of money.

The Board expressed concerns as follows:

- Can the project be accomplished with the requested amount of money?
- How to keep the filters from plugging up is a concern.

#### **#06-52 Development of Disposable and Reusable Acoustic Bioreactors**

**Todd McAdams – Resodyn Corporation – Butte**

**Year 1 - \$250,000; Year 2 - \$250,000; Total - \$500,000**

##### **Discussion Notes**

The Board liked this project because:

- This project was ranked highest of 30 NSF SBIR Phase II proposals.
- President of Applikon visited Resodyne and is apparently enthusiastic about the technology.
- The technology was mentioned in "The Kiplinger Newsletter" as a potentially important technology.

The Board expressed concerns as follows:

- Request is for a significant amount of money - \$500,000.
- Current wheat pulp project, although not completed, does not show great promise for commercialization in the near future.

#### **#06-53 Single Photon Laser for Spintronics Data Links**

**Alan Craig – MSU – Bozeman**

**Year 1 - \$151,576; Year 2 - \$98,424; Total - \$250,000**

##### **Discussion Notes**

The Board liked this project because:

- The proposal makes a good case for the technology.

The Board expressed concerns as follows:

- In a previous project, the PI has had reporting and administrative problems, which took quite a bit of effort to clear up.
- PI did not follow MSU procedure for submitting applications.

A discussion ensued regarding possible funding options. There is \$3.4 million available for the first year of this funding cycle.

**Action:** It was decided that presentations will be held in Bozeman on May 26 and, if applicants have problems attending, May 31 is the alternate date. Ten minutes will be allowed for presentation and 15 minutes for Board interaction.

#### **VIII. Public Comment**

There was no public comment.

#### **IX. Adjourn**

The meeting adjourned at 12:30 p.m.

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William R. Crain, Chairman